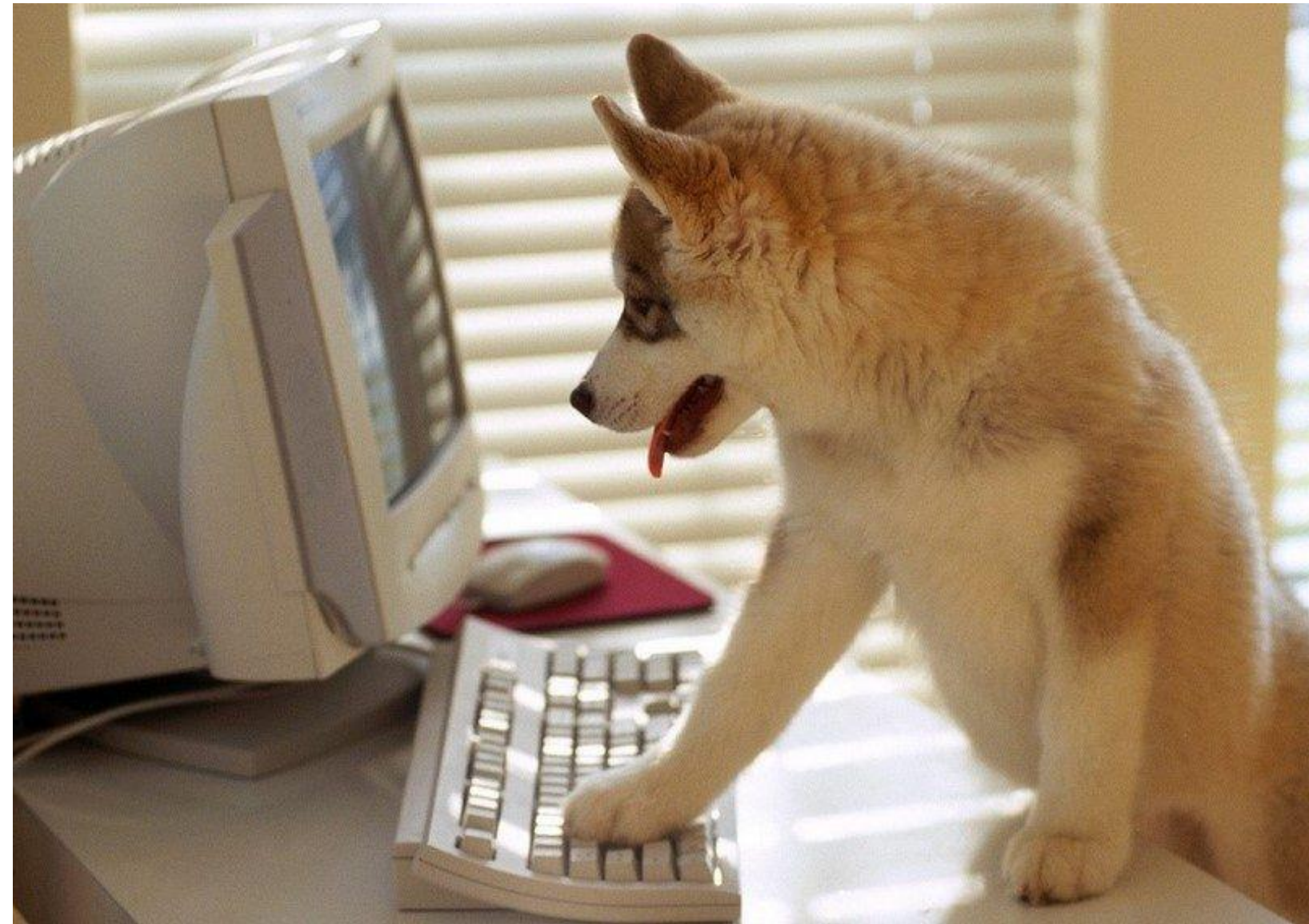


# Java Programming



# Organizational Stuff

23.09.: No Students :(

24.09.: Structures

25.09.: Methods & Recursion

26.09.: Arrays

27.09.: Strings

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30.09.: OOP

01.10.: Generics & Linked Lists

02.10.: Exceptions & Testing

03.10.: Holiday

04.10.: GUI

# Scopes

```
public class Scopes{
    int a;

    public void doSomething() {
        int c1 = 4;
        int a1 = c1 + 9;
        a = a1 + c1;
    }

    public void doSomethingElse(int a) {
        int c = 7;
        int b = a + c;
        int result = a + b + c;
    }

    public static void main(String[] args) {
        doSomething();
        doSomethingElse(7);
    }
}
```

# Scopes

```
public class Scopes{
    int a;

    public void doSomething() {
        int c1 = 4;
        int a1 = c1 + 9;
        a = a1 + c1;           //What value is assigned to a?
    }

    public void doSomethingElse(int a) {
        int c = 7;
        int b = a + c;
        int result = a + b + c;
    }

    public static void main(String[] args) {
        doSomething();
        doSomethingElse(7);
    }
}
```

# Scopes

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public class Scopes{
    int a;

    public void doSomething() {
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        int a1 = c1 + 9;
        a = a1 + c1;           //What value is assigned to a?
    }

    public void doSomethingElse(int a) {
        int c = 7;
        int b = a + c;
        int result = a + b + c; //What is the result?
    }

    public static void main(String[] args) {
        doSomething();
        doSomethingElse(7);
    }
}
```

# Strings

```
String s = "Hello World!";
```

# Strings

```
String s = "Hello World!";
```

What can we do with this?

# Strings

```
String s = "Hello World!";
```

What can we do with this?

→ A lot! ;)



# Strings

```
String s = "Hello World";  
  
s.length(); //10  
  
s.charAt(4); //'o'  
  
s.equals("Hello"); //false  
  
s.substring(6); //"World"  
  
s.substring(0,5); //"Hello"  
  
String s2 = String.valueOf(14); //"14"
```

# Strings

```
//normal for loop  
for(int i = 0; i<s.length(); s++){  
    System.out.println(s.charAt(i));  
}
```

```
//for each loop  
for(char c : s.toCharArray()){  
    System.out.println(c);  
}
```

# Strings

```
String a = "Hello ";  
String b = "World!";  
  
// simple concatenation  
System.out.println(a+b);  
  
//concat method  
System.out.println(a.concat(b));  
  
//StringBuilder  
StringBuilder sb = new StringBuilder(a);  
sb.append(b);  
System.out.println(sb.toString());
```

# Strings

<b>char</b>	<b>String</b>
<code>'a'</code>	<code>"Hello"</code>
primitive	complex
<code>'a' == 'b'</code>	<code>s.equals("Hello")</code>
<code>'a' + 'b'</code>	<code>-</code>
<code>(int) 'a'</code>	<code>Integer.parseInt("12")</code>

# Strings

```
char c = '3';

if (Character.isDigit(c)) {
    System.out.println("numeric");
}
else if (Character.isLetter(c)) {
    System.out.println("letter");
}
else {
    System.out.println("other");
}
```

```
String s = "15";

boolean isNumeric = true;

for (int i = 0; i < s.length(); i++) {
    char c = s.charAt(i);
    if (!Character.isDigit(c)) {
        isNumeric = false;
    }
}

System.out.println(isNumeric);
```

# Strings

**Today's Assignment:**

<https://classroom.github.com/a/v8Ap5tBW>

